

With the Medical Officer of Health
SOU - TY *Complete*



Borough of Southend-on-Sea.

ANNUAL REPORT
UPON THE
STATE OF PUBLIC HEALTH
IN THE
BOROUGH OF SOUTHEND-ON-SEA,
FOR THE YEAR 1895,
BY
A. CLOUGH WATERS, M.B., B.S.,
MEDICAL OFFICER OF HEALTH.

SOUTHEND-ON-SEA :
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WHITEGATES,

February 4th, 1896.

TO THE HEALTH COMMITTEE OF THE SOUTHEND-ON-SEA TOWN COUNCIL.

MR. CHAIRMAN AND GENTLEMEN,

The following is my Annual Report for the year 1895, and the record of the past year shews a marked decrease in the number of cases of preventable disease.

It will be found that several important improvements have been carried out for promoting the health of the town, and its increasing popularity as a health resort is instanced by the large numbers of new residents, which naturally makes the inhabitants sensitive as to the health returns. Consequently it is of vital importance to the best interests of the town that no expense should be spared to make the sanitary requirements above suspicion.

I am, Mr. Chairman and Gentlemen,

Your obedient Servant,

A. CLOUGH WATERS,

Medical Officer of Health.

BOROUGH OF SOUTHEND-ON-SEA.

Health Committee :

THE MAYOR (Mr. Councillor Prevost)

MR. ALDERMAN BURROWS

„ COUNCILLOR BELCHAM (*Vice-Chairman*)

„ „ BOWMAKER (*Chairman*)

„ „ BROWNE

„ „ CHRISTMAS

„ „ CONEY

„ „ GOOCH

Town Clerk :

MR. W. GREGSON.

Health Officials :

Inspector of Nuisances MR. W. WHITE

Assistant „ MR.

Medical Officer of Health :

A. CLOUGH WATERS, M.B., B.S.

VITAL STATISTICS.

The rapid growth of the Borough of Southend-on-Sea, both as a residential and health resort, makes it important to estimate the population correctly, and with that view the usual method of counting the inhabited houses was followed in July, the number obtained being multiplied by 5·2—that representing the proportion of population per house at the last census (1891), which it is only reasonable to assume has been maintained, knowing that the increase in rail and steamboat traffic continues.

Inhabited houses	...	...	...	...	3116
Uninhabited „	...	...	...	...	81

This gives a population of 16,203, and my calculations are founded on this.

Census Rate.

In 1891 gave 12,333 inhabitants, and taking that as a standpoint would give 14,840, thus underestimating the population by 1,363.

Visitors.

It is impossible to give reliable figures; but without question there are few towns, if any, of a similar size which have such a large number of visitors and day excursionists.

Area of Borough.

3,441 acres, giving an average per acre of 4·70 persons, and it is hoped to incorporate part of Southchurch (*vide* Eastern Valley Sewerage Scheme).

Births.

The number registered for the year 1895 was 426—209 boys and 217 girls—and of these 20 were illegitimate—11 boys and 9 girls.

This gives a birth-rate of 26·29 per 1,000 inhabitants,

Deaths.

During the year 263 were registered in the district, 5 paupers died in the Rochford Union Workhouse who belonged to Southend, making a total of 268 ; of these 26 were visitors, thus leaving 242, and giving a death-rate of 14·93. It is a noticeable feature that 49, or a fifth of the deaths, were under one year, and chiefly due to disease of the digestive organs ; and this may be ascribed to the want of knowledge and care in feeding children. It seems only necessary for a baby to be a few months old to give it the ordinary family food, which amongst the irresponsible classes is deemed sufficient. The distress which prevailed in the early months of the year, the long period of cold, and the expense of providing cow's milk (which in the summer turns so quickly sour), together with want of cleanliness, have no doubt influenced the infantile mortality, which is 115·02 compared to number of births.

More than a fifth (55) occurred in persons over 65, which, considering the severity of the winter and the prevalence of influenza, is not surprising.

There were ten uncertified (including one visitor).

The following gives birth and death rates on the population of the Borough—16,203.

Birth rate	...	...	...	...	26·29 per 1000 inhabitants
Death rate	...	...	...	...	14·93 „ „
Zymotic death rate	...	...	...	...	1·46 „ „
Zymotic case rate (of all cases notified)	...	...	...	...	11·76 per 100 cases
Infantile mortality (under 1 year) compared	...	...	...	...	115·02
to number of births	...	...	...	...	115·02

To estimate the Birth and Death rates on the Census rate, must be of very little service for comparison, knowing that without question the population would be under-estimated by 1363 persons, and the same condition has been present the past three or four years.

Inquests.

During the year 14 were held.

Natural causes	...	...	1
Drowning	...	...	5—3 visitors
Hanging	...	...	2 {
Cut Throat	...	...	1 { Suicidal
Accident	...	...	5—1 visitor

Zymotic Diseases.

The Infectious Disease Notification Act, which has been in force in the Borough since 1890 continues to work satisfactorily. The value of this Act in

preventing the spread of disease by isolation and sanitary precautions, and bringing to light defective drainage, over-crowding, and bad water supply is very manifest. The notification is invariably sent by the medical attendant, and under Section 3 it is the duty of every householder to report to the Medical Officer of Health any case of infectious disease occurring in the house, irrespective of medical practitioner.

A monthly return of notifications is sent to Dr. Thresh, the County Medical Officer, who sends a return of those occurring in the County, which is very useful for comparison.

Table of returns :—

	Total No. of Cases.	Imported.	Deaths.	Deaths per 1,000.
Variola	4	1	1	0·06
Measles	—	—	—	0·00
Scarlet Fever	26	8	—	0·00
Diphtheria and Membranous Croup	35	2	7	0·43
Whooping Cough	—	—	3	0·18
Diarrhoea & Dysentery	—	—	5	0·30
Fever (chiefly Enteric)	105	6	8	0·49
TOTALS	170	17	24	1·46

The most satisfactory fact of the year is the decrease in the number of notifications as compared with the past two years.

Total Number	1895	1894	1893
of			
Notifications.	170	227	287

Taken as a whole Zymotic disease has not been of a severe character, some cases having been of the mildest description, and this is evident by the death rate being 1·46 per 1,000 persons, and the case mortality of all persons notified being 11·76 per 100 persons. Pauper cases occurring in Southend-on-Sea are still treated in the Sanatorium, the patients being under the care of the Medical Superintendent.

NOTIFIABLE ZYMOTIC DISEASES.

Variola (Smallpox).

The large number of excursionists who come from the East-end of London where this disease has been present, makes it satisfactory to know that only four cases have been notified :—

CASE I. The disease first appeared in a man aged 23 years, who had been an inmate of the Lambeth infirmary, where two or three cases had been present.

He arrived home on the 21st May, complained of pain in the back on June 4th, and vomited the next day, the rash appearing on the 6th, and was removed to Rochford that day.

He had two vaccination marks, but was not re-vaccinated. The five persons remaining in house were re-vaccinated, quarantine imposed for nineteen days, with the result that no secondary case occurred.

CASE II. On November 4th, a man aged 21 had slight symptoms, and gradually developed rash on the 7th, the patient was nursed at home by his mother, the case being of a mild nature.

Had been vaccinated in infancy, two marks, both indistinct.

Of the three occupants of the house, two were re-vaccinated, and one declined, having had the disease some years previously.

CASE III. The Medical Practitioner in attendance unfortunately contracted the disease. No marks were present of vaccination, and re-vaccination had not been done.

The disease was of a confluent type, and I regret to say terminated fatally fourteen days from the onset.

Two adults and a boy in the house were re-vaccinated (the adults twice) and quarantine imposed.

CASE IV. A man aged 35, on December 20th, had premonitory symptoms, and rash appeared on 23rd. Two out of three persons in house re-vaccinated with the usual quarantine. This case arose in the house of whom the landlord had a relative in service in Case III.

Isolation Hospital.

I had on several occasions called attention to the necessity for providing accommodation ; but unfortunately no provision had been made, and the Chairman and myself decided on removing Case III to a disused house, in the meantime erecting

an isolation hospital on land kindly lent for a year by Mr. Alderman Dowsett, J.P., where Case IV was removed (for particulars of size see Sanatorium).

ORIGIN. The first case was imported. The last three are traceable to one origin, and after investigation, I interviewed a man with marked pitting on face and some on hands and wrists who said he had Chicken pox in September with his two children, and I have no doubt he had Smallpox, and the washing of the inmates was done at the house of Case II ; hence the importance of careful diagnosis and early notification.

Vaccination and Re-Vaccination.

I wish to emphasize the fact that no Smallpox developed in those who had been re-vaccinated, and it is of vital importance to the town for vaccination to be done, and re-vaccination offered free to the public.

Scarlet Fever.

This disease was of moderate severity, no death resulting.

There were twenty-six notified cases, eight occurring in visitors, who, in each case developed the rash on the second day of arrival. With the exception of four in one family (all sickening at the same time, and probably due to the fact that a visitor had stayed in the house some ten days previous for the benefit of his health, and who had gone when investigation was made) and two in another family, the cases were isolated ones.

Including the eight importations, there were twenty-two separate origins ; and ten cases, representing the same number of origins, were removed to the Sanatorium, and it is due in part to the prompt isolation that the disease has been prevented spreading. In the fourteen houses where it arose without a discoverable cause, in only two could drainage defects be found.

In only two cases was the milk supply the same ; and with the exception of those occurring in the same family, no two cases attended the same school.

Diphtheria and Membranous Croup.

These two diseases will be considered together as they are believed to be of essentially the same nature, and due to the same specific organism.

Thirty-five cases were notified (Diphtheria thirty-one, Membranous Croup four). Two cases imported, the patients having come from houses where the disease had been present. There were seven deaths, giving a death rate of 0.43 per 1000, and case mortality of 28.57 per 100 persons.

The ages at death were :

Notified as Diphtheria	3, 5, 5 years.
Notified as Membranous Croup	2, 3, 4, 5, years.

The uncertainty of diagnosing these diseases makes the statistics to a certain extent unreliable.

It is most important that every case of sore throat should be treated with care, and this is too often ignored, especially in membranous croup, children being allowed to mix with others, and in several cases in my knowledge, the medical practitioner has been called in to find the patient in imminent risk of suffocation.

The Antitoxin treatment of this disease shews better results, and the bacteriological examination of the throat products is more satisfactory.

The prevalence of diphtheria has increased during the past decade; and although, according to the Registrar General, the mortality was somewhat lower in 1894 than in 1893, the state of things is still unsatisfactory. Of the thirty-three cases originating in the Borough

1 Due to drinking sewage contaminated water (the cess-pit being adjacent) in a farm house.

1 In a cottage (very filthy).

1 A laundry-maid at the Sanatorium.

the remaining thirty were present in twenty-three houses, and in twelve drainage defects allowed sewer gas to enter the house, and of the rest no sanitary defects could be found.

The milk supply bore no relation whatever.

There was no relation to rainfall.

It is an important fact in view of infection, that of the seven houses where the seven deaths occurred, in only one was there a second case, yet, in another house five cases were notified, and all recovered, as also respectively three and two in other houses.

Considering out of eight notifications seven deaths resulted, as against ten notifications in three families and no deaths, we have ample proof of the variability in virulence of diphtheria.

Enteric (Typhoid) Fever.

Two special reports on the prevalence of this disease in the Borough have been made, one by Mr. Shirley Murphy in 1888, the other by Dr. Thresh in 1890.

Dr. Thresh's recommendations with reference to

(a) Consulting a skilled engineer

(b) Providing an isolation hospital

(c) More careful supervision of house drains and buildings in course of erection, (A Building Inspector having been appointed)

have all been carried out.

The Engineer consulted (Mr. Mansergh) in 1892, advised what is known as the Eastern Valley Sewerage Scheme, particulars of which will be found on page 22.

There is no doubt in consequence of the increasing number of visitors, that we are prone to have outbreaks of this disease from imported cases.

The total number of cases notified this year was 95—this including 6 imported, and one of continued fever—which I subtract, giving a total of 88 to be accounted for.

From the following table it will be seen that notifications and death rate have diminished in comparison with the two previous years, which, to a certain extent, is a matter for congratulation, although recurrence of this, the most preventable of all zymotic diseases, is very much in excess of other towns.

		1895.		1894.		1893.	
		No. each Month.	Deaths.	No. each Month.	Deaths.	No. each Month.	Deaths.
January ...	...	8	1	2	—	—	1
February ...	...	8	1	4	—	4	—
March ...	...	1	1	—	—	1	3
April ...	...	2	—	1	—	3	1
May ...	...	1	—	8	—	1	—
June ...	...	4	1	14	2	24	3
July ..	...	2	—	22	1	17	2
August ...	...	8	1	19	1	15	3
September ...	...	17	1	12	1	14	—
October ...	...	8	—	14	2	20	—
November ...	...	12	1	11	3	25	2
December ..	...	17	1	6	2	8	1
Total	...	88	8	113	12	132	16

The Death Rate on the population of 16,203 was 0.49 per 1,000.

The Case Rate per 100 persons was 9.57.

Table of cases originating in the Borough each month for the year 1895, with ages and deaths :—

	Total.	Under 1 Year.	Between 1 & 5 Years.	Between 5 & 15 Years.	Between 15 & 25 Years.	Between 25 & 65 Years.	Deaths	Ages at Death.
January ...	8	—	—	4	3	1	1	27
February	8	—	—	1	6	1	1	40
March ...	1	—	—	1	—	—	1	17
April ...	2	—	—	1	—	1	—	—
May ...	1	—	—	—	1	—	—	—
June ...	4	—	—	1	—	3	1	41
July ...	2	—	—	1	1	—	—	—
August ...	8	—	—	2	3	3	1	20
September	17	—	2	10	1	4	1	21
October ...	8	—	—	2	2	4	—	—
November	12	—	2	4	1	5	1	12
December	17	—	3	3	3	8	1	36
Totals	88	—	7	30	21	30	8	

The 88 cases originated in 62 houses, the following being with sanitary defects :—

26 houses with defective drains

4 house drains satisfactory, but basements occasionally flooded owing to tidal influence

1 water on analysis unfit for drinking purposes except when boiled

1 soil pipe ventilator opening immediately opposite and adjacent to bedroom window

1 working in lock-up shops (Pier) the drain opening inside, with bell trap

2 drained into Prittlewell tank, no water in either case to W.C.

A total of 35 with defective sanitary arrangements.

The remaining 27 had no discoverable defect.

In 12 houses the disease was present last year

5 no sanitary defects

2 drains right, but basements flooded owing to tidal influence

3 drains defective

2 on the Prittlewell tank, no water to W.C.

The Table below gives number of cases in connection with each system of sewer and outfalls :—

	Area Sewered. Acres	Area Built on. Acres	Total No. of Cases.
Pier (Outfall)	387½	77½	42
Hamlet Valley (Outfall)	144	22¼	15
Marine Parade Castle Scott's Villas } Outfall }	73	28½	27
Prittlewell Tank	(37 privies emptying into cesspools)		2
Total	604½	128¼	86

2 cases occurred in the outlying districts, both having cesspits, and 1 was due to contaminated water.

The above Table is based on calculations made in 1892, and since then the proportion of building has been in connection with the Marine Parade Sewer, the houses being smaller and a much larger number, whereas in the Hamlet Valley they are detached residences. The relation of cases to each sewer system is fairly even, except that the Marine Parade shews a slight preponderance.

PROBABLE CAUSES OF THE ENDEMIC PREVALENCE OF ENTERIC FEVER.

Milk and Water.

I exclude the former as bearing no relation to the number of cases notified; and the water has always proved satisfactory on analysis, while the fact that cases occurred during each month of the year without an epidemic fairly exonerates the water supply.

1.—No less than 7 cases originated through nursing a previous case, and I regret that the public scarcely recognise in an adequate manner, the necessity of precautionary measures.

2.—Family predisposition, the following are instances among many :—

(a)	1889	3 cases	}	In same family.
	1894	3 „ (1 a second time)		
	1895	5 „ (1 a second time)		

(b)	1890	2 „	
	1892	2 „ (1 a second time)	
	1893	1 „	
	1894	1 „ (a second time, before in 1890).	

(c) 8 (having a relationship once removed) during a period of twelve years.

The known fact that 54 per cent. of infected houses had drainage defects is sufficient to make further investigation very difficult.

3.—Until within the past two or three years it had been the custom to bury excreta in the garden, the disinfectant used being chiefly Carbolic Acid, and no doubt in the majority of cases in insufficient quantity to destroy the germs. During 1890, 1891 and 1892 this practice was publicly advised. By this practice Enteric Fever having been in past years widely prevalent a large amount of specifically infected excreta has been deposited in various quarters of the town; and now that the excreta are put down the drains, some of which must always be leaking, the soil of the town has continued to be specifically polluted in another way.

It is difficult for me, in view of the dicta of certain bacteriologists, to suggest that the Eberth-Gaffky bacillus may remain dormant in the earth for some months yet knowing how easily it may be cultivated outside the body, and that, in the presence of free oxygen it develops

resistant power, it seems to me not unreasonable in accounting for the continued endemic prevalence of Enteric Fever in the town to assume a more lengthy life for the specific bacillus outside the human body than is commonly accorded to it.

- 4.—Rise and fall of subsoil water polluted with the specific germ (Southend-on-Sea is built on brick earth and sand varying from 30 to 35 feet in depth, lying upon the London clay). No less than 64 cases were notified in the latter half of the year, with a total rainfall of 14·60 inches, as against 24 in the former half, with a total rainfall of 4·78 inches.
- 5.—As I mentioned before, 54 per cent. of houses infected had defective drains, allowing of sewer gas to enter the house, which if not the actual cause, yet renders a person more liable to infection.
- 6.—The admittedly defective condition of the Marine Parade and Scott's Villa sewers which are tide-locked, and often flood the basements of houses draining into these systems, the latter allowing the sewage to escape through each joint into the soil.
- 7.—All the outfalls being too small, and subject to tidal influence.

Shell Fish.

The relations to Enteric Fever is still the subject of inquiry, and out of the large number of cases I can only trace two. The following is interesting :—On August 6th, 1894, a family partook of oysters off the shore, two sickening on the 26th and 30th of the same month. On August 5th, 1895, same family again ate oysters, and on August 26th, September 4th and 6th, three cases were respectively notified. Drainage defects were present in both.

Measures Advised and Adopted.

- (1). 45 cases were removed to Sanatorium.
- (2). Daily flushing of sewers known to be defective.
- (3). Flushing with Corrosive Sublimate (1 in 1000).
- (4). Flap valves and ventilating shafts were placed in man-holes in Hartington, Pleasant, and Brewery Roads, these being at the junction of the high with the low level sewers.

NON-NOTIFIABLE ZYMOTIC DISEASES.

Measles

Was very prevalent in the spring, and although no deaths resulted, it is a difficult matter to prevent its spreading, owing to so many people being careless about isolation, and in many cases if one of a family suffers from the disease the remaining are put with the sufferer in order that all the children may have it at the same time.

Whooping Cough.

Many cases were present during the year. The deaths were three, aged four, eight, and ten months respectively, with a death rate of 0·18 per 1,000 inhabitants.

Diarrhœa.

Although many cases occurred during the hot summer, only five deaths were registered, the ages being two years, and three, four, six, and eight months respectively, giving a death rate of 0·30 per 1,000 persons.

Influenza.

This disease was very prevalent during the first quarter, making the sixth epidemic since 1889, and a memorandum was issued by the Local Government Board with reference thereto.

All classes of persons were attacked, and very few escaped, although in my experience, it has not been of such a severe type as in some epidemics.

There were eight deaths, and all associated with bronchitis or pneumonia, and I believe more might be traced to this disease. The death rate was 0·49 per 1,000 inhabitants.

That it is infectious in the early stage is proved by the rapidity with which it spreads, and its variation at the onset together with disregard for isolation makes precautionary measures almost useless.

One perplexing question among many is : Why does it attack one out of several in a house and not the others? especially when one knows that in other instances it will become general in a few hours.

Precautions adopted in Infected Houses.

The Sanitary Inspector is furnished with a paper giving outline of enquiry to be made with reference to each disease, and this is returned to the Medical Officer.

Two printed notices are left at the house, one explaining how disease is spread and its prevention, the other to be returned when the patient is convalescent, in order that disinfection may be insured.

Removal of patient to Hospital, and where this is refused, daily disinfection of house-drains, with flushing of sewer in cases of Enteric Fever.

Chlorine fumigation has been used in some houses instead of sulphur, and especial care has been taken to insure white-washing and stripping of wall paper in the infected rooms.

I have in every case made personal inquiry into the cause of the various outbreaks.

REGISTER OF RAINFALL IN 1895.

TIME OF OBSERVATION, 9-0 A.M.

		Number of days on which rain fell.		Amount collected in inches.
January	...	21	...	1·66
February	...	6	...	·58
March	...	14	...	1·24
April	...	12	...	·95
May	...	5	..	·16
June	...	5	...	·19
July	...	11	...	2·83
August	...	14	...	2·03
September	...	5	...	·89
October	...	15	...	2·88
November	...	20	...	3·27
December	...	17	...	2·70
Total for the year		145		19·38

For the above table I am indebted to the courtesy of Mr. C. S. Bilham,
Superintendent of the Southend Waterworks Company.

SANITARY DEPARTMENT.

The staff has been quite inadequate to the amount of work, and the appointment of an Assistant Sanitary Inspector will facilitate a more systematic inspection of the district. The following is the Report of the Sanitary Inspector, whose zeal and energy I readily recognise :—

Notices served and personal interviews	...	...	213
Nuisances removed or abated	...	...	198
Houses and premises inspected	...	...	324
Inspections of district with M.O.H.	...	...	11
Houses tested	...	...	164
Work done to same, and re-tested	...	...	143
Visits to Slaughterhouses	...	...	39
„ Bakehouses	...	...	41
„ Milk shops	...	...	37
„ Fish shops	...	...	31
„ Fruit shops	...	...	36
Patients removed to Sanatorium	...	...	63
„ „ Small Pox Hospital	...	...	1
Houses and rooms disinfected	...	...	118
Dwelling houses cleansed and limewhited	...	...	1
Summonses taken out, work done, summonses withdrawn...			2
Dwelling houses condemned as unfit for habitation	...		1
Cesspools filled in	...	...	4
W.C's provided in place of privies	...	...	4
Samples of water to Analyst	...	...	3

Goods destroyed from infected houses—

Beds	...	4	Bolsters	...	2
Pillows	...	8	Blankets	...	4
Sheets	...	2	Palliasses	...	1

Disinfectants used and distributed—

Jeyes, &c., bottles 18oz.	...	...	118
Sulphur, lbs.	...	...	100
Chloride of Lime, lbs.	...	...	14
Corrosive Sublimate, bottles 18oz.	...	...	10
Methylated Spirits, pts.	...	...	8
Muriatic Acid, oz.	...	...	30

Eleven persons supplied with food and visited in infected houses,
51 visits.

The Cowsheds and Dairies Act.

The thirty-seven inspections have proved satisfactory. There have been four new applications to sell milk, which, after examination of premises were registered.

In one case, owing to enteric fever being present, a milk shop was ordered to be closed for fourteen days, and a list of customers supplied. No case could be traced to consumers of milk from this shop.

Slaughterhouses.

Of the seven, six are now in accordance with the bye-laws, one being out of use.

PUBLIC SLAUGHTERHOUSE. Power is now in force for this provision, and prohibiting the use of private slaughterhouses.

Water Supply.

There is a constant service and unlimited supply. The analysis of water by Dr. Bernard Dyer as given below, proves it to be of excellent character for domestic purposes.

Analysis of Water.

				Grains per Gallon.
Total dissolved matter	...	...	...	66·36
Loss on incineration of residuc	...	...	...	3·08
Chlorine in Chlorides	...	...	...	22·20
(Equal to Chloride of Sodium)	...	...	...	36·58
Nitrogen in Nitrates	...	...	...	·03
(Equal to Nitric Acid)	...	...	...	·12
Free (actual or saline) Ammonia	...	...	...	·003
Albuminoid (organic) Ammonia	...	...	...	·001
Oxygen absorbed by oxidisable organic matter, &c., from a solution of Permanganate of Potash at a temperature of 80° Farenheit,				
	In 15 minutes	...	...	·012
	In 4 hours	...	...	·037
Phosphoric acid	...	...	...	trace
Appearance in 2 feet tube	clear;	very	pale green.	
Microscopical examination shows a very few infusoria and vegetable particles, and a few bacteria.				

A bacteriological examination by culture methods—both at the ordinary temperature and at blood heat—yields exceedingly satisfactory results, and confirms the chemical figures in indicating a high degree of organic purity.

BERNARD DYER.

In December a Local Government Board Inquiry was held by Colonel Coke, C.E., the contentious points between the Corporation and the Water-works Company as regards sanitary purposes being the desire by the latter to

have power to enforce the double valve cistern alone with a two gallon flush, the object being to exclude syphon cisterns.

In the end a satisfactory compromise was effected, namely :—

- (a) A maximum flush of $2\frac{1}{2}$ gallons.
- (b) Syphon Cisterns to be allowed (other than drop valves).

Dust Refuse.

The collection has been efficiently carried out, being under the direction of the Borough Surveyor's Department. The necessity for providing a Refuse Destructor is urgent, so many complaints being made of the nuisance arising from the burning of refuse in the brickfields, and as land has been acquired I hope no more delay will occur.

Dust Bins.

An inspection has been made, and all defects are being remedied.

Sewers and Drains.

The Marine Parade and Scott's Villas have been practically condemned, and together with the Pier Outfall, will comprise the Eastern Valley Sewerage Scheme, which has now no further obstacle to its becoming an accomplished fact.

Until provision is made for flushing at the head of sewers no satisfactory result can be obtained. Flushing being carried out by a moveable tank holding 400 gallons.

During the year $33\frac{1}{2}$ tons of copperas, dissolved in 30,000 gallons of water, has been put down sewers and gullies. In special cases, during the presence of Enteric Fever, a solution of corrosive sublimate (1-1000) has been used.

1,000 lineal feet of defective sewers has been relaid.

500 lineal feet of main drains relaid.

In 11 out of 12 lock-up shops (Pier) the drain was inside with only a bell trap. These have all been scaled up.

KEELING'S VENTILATORS.—The 6 consumed 99,000 feet of gas.

Lavatories.

A much needed want is being supplied. Men's lavatory on Pier Hill opened on June 1st, provides 4 w.c.'s. and 6 urinals. Women's lavatory on Pier Hill, about to be commenced, provides 9 w.c.'s. and 8 washing basins. To be erected on Western Esplanade, men's lavatory containing 5 w.c.'s., 15 urinals and 9 washing basins; women's lavatory, 9 w.c.'s. and 9 basins.

Pier and Foreshore.

A large amount of refuse which was deposited by the Pier has been removed and further deposit prevented. Oyster boxes, situated near the Pavilion, have also been removed, only to be placed in a worse position on the Southchurch Beach, out of the Borough. The drainage of Pier Pavilion will be remedied by the new scheme.

Prittlewell.

The drainage consists of 37 privies with cesspits, the overflow passing into a tank, and from this flows into a brook which empties itself into the river.

Plans for new houses with cesspits have been passed, a sufficient reason for drainage in this part of the district.

A new sewer is to be laid in Sutton Road at such a level as will allow of part of Prittlewell being drained into it.

THE BOROUGH SANATORIUM.

Area of land enclosed, nearly $2\frac{1}{2}$ acres, clay soil, and in the S.W. corner was a stagnant pond, which drained an adjoining field through an arch made in the wall.

Owing to water standing on the surface I recommended subsoil drainage, which has been carried out and the stagnant pond filled up, at a cost of £65.

The present block consists of two wards, with six beds in each, a nurse's room separating the two ; also there is a galvanized iron erection, lined with wood, with two small wards, two beds in each, and a nurse's room, a laundry and ambulance house. The administrative building being two cottages outside the enclosure.

In course of erection, and nearly completed, are (a) two ward blocks, with accommodation for ten patients.

(b) An administrative block.

(c) Laundry, mortuary, with disinfecting and ambulance provision.

(d) A "Washington Lyons" disinfector, which is now in use, and registers a maximum temperature of 274° F.

The present laundry will probably be used as a discharging room for patients.

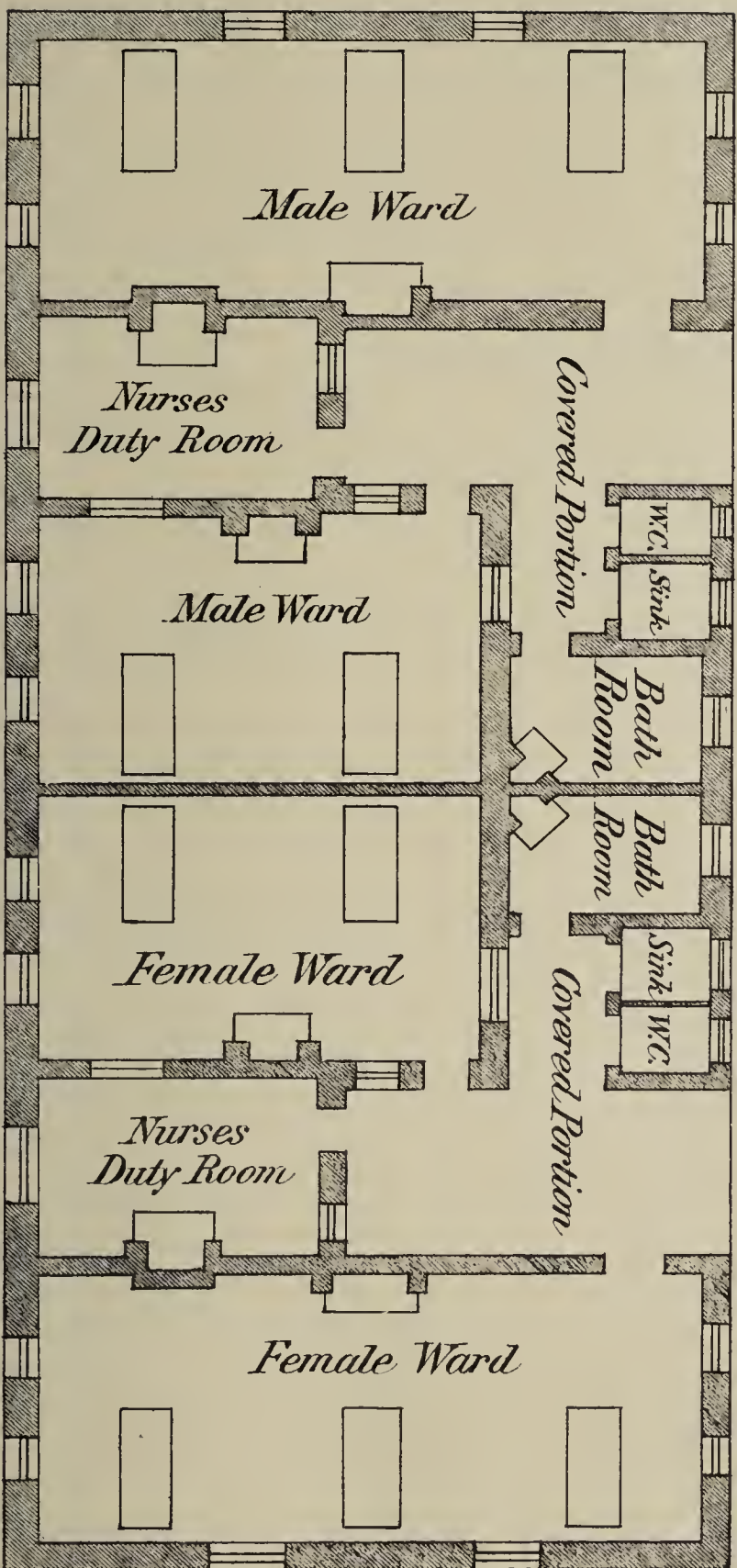
When completed provision will be present for three different diseases with separation of sexes, and sufficient for some years (see plan).

The Staff consists of Medical Superintendent (M.O.H.), who is responsible for the management to the Health Committee, and visits Hospital every day and oftener if necessary ; Nurse-Matron (Miss Thompson) ; two Staff-Nurses and a Probationer, (additional help when necessary) ; a Servant, Ward-Maid and Laundry-Maid ; a Porter (to be appointed).

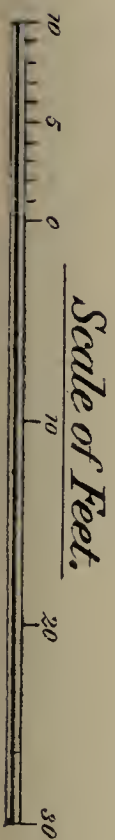
Patients are admitted on the order of Medical Superintendent, who undertakes case unless the Medical Practitioner notifying desires to attend.

A charge is made for each patient, and this year has varied from 2/- to £2 2s. 0d. per week. The table below gives number of patients admitted

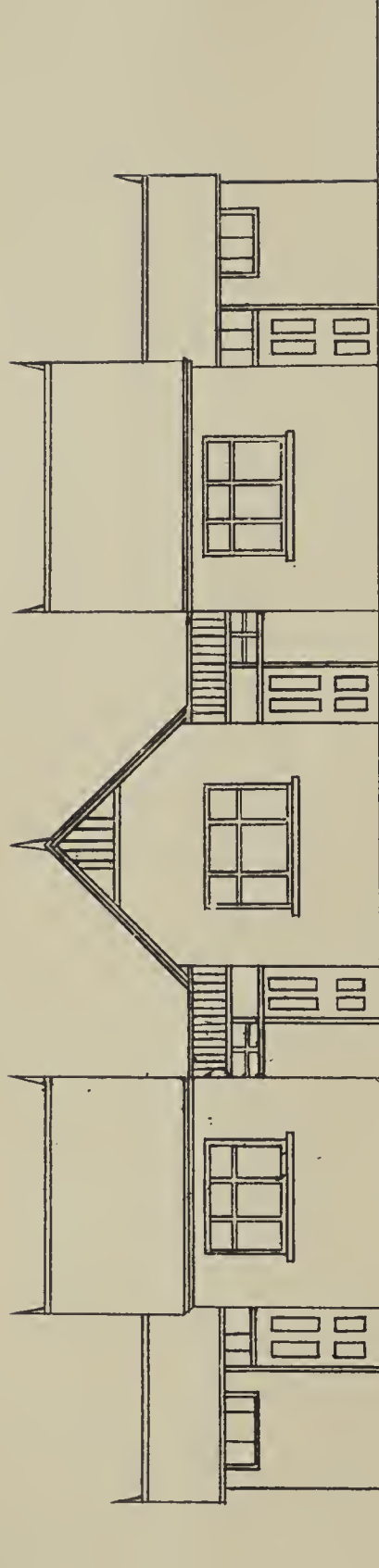
Borough of Southend-on-Sea. *Sanatorium, Hospital Block.*



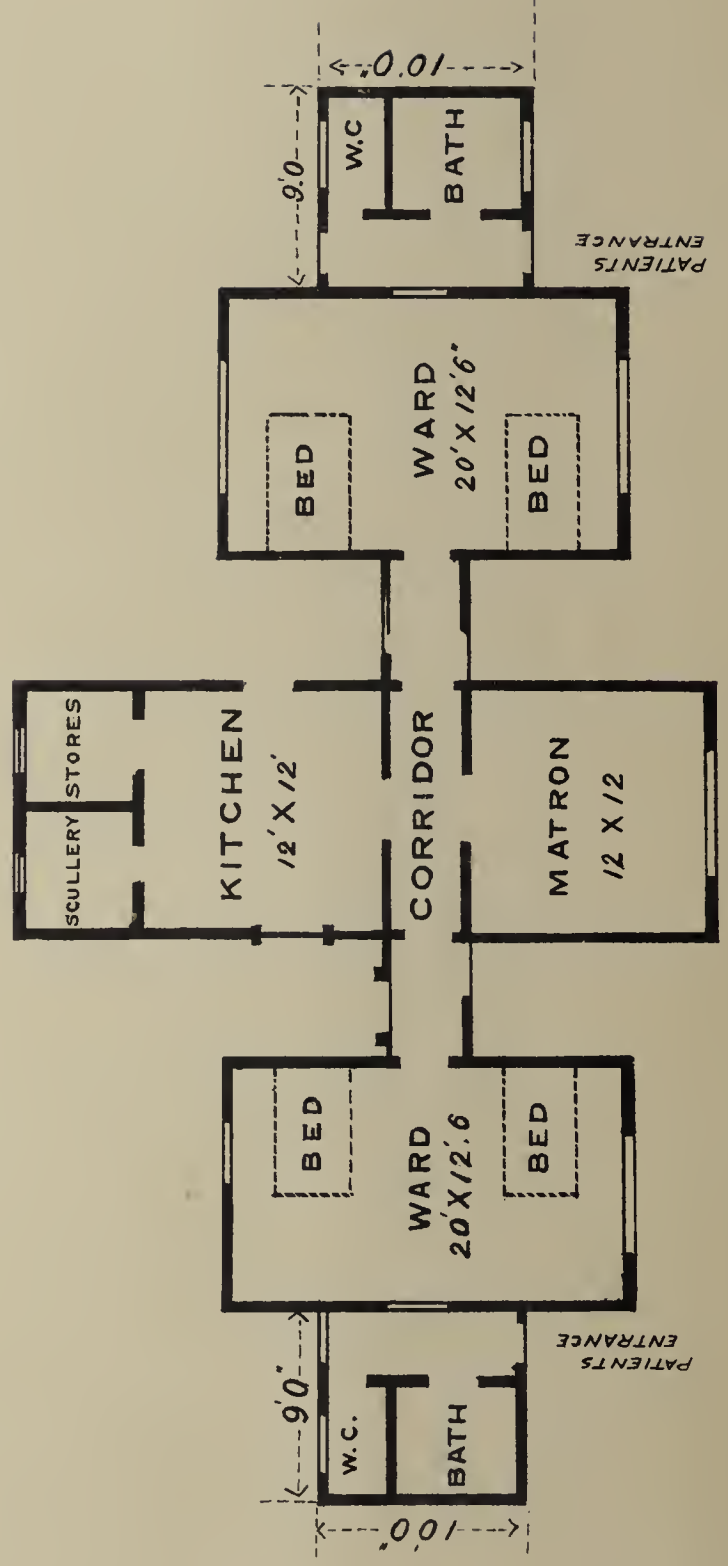
Ground Plan.



SMALL POX HOSPITAL.



ELEVATION & PLAN.



during year 1895, including one case in Hospital on January 1st :—

		Deaths	
Enteric Fever	45	5	
Scarlet Fever	10	—	
Diphtheria	6	—	
Variola	2	1	} Both isolated in Smallpox Hospital.
Erysipelas	1	—	
Other Diseases	1	—	
Total	<u>65</u>	<u>6</u>	

Total Case Rate 9·23 per cent.

Enteric Case Rate 11·11 per cent.

34 Cases admitted under care of Medical Superintendent and include 14 parish patients.

The Nurse-Matron (Miss Thompson) in the nursing and house-keeping has left nothing to be desired, and I have much pleasure in recognising the able manner in which the Staff have carried out their duties.

Isolation (Smallpox) Hospital.

The present structure of galvanized iron, lined with wood, has been erected in Stoker's Lane, leading off the Sutton Road, and when occasion presents it is intended to remove it to land acquired by the Corporation.

There are two wards, each with two beds and w.c., separated by a nurse's room and kitchen, a plan of which is given.

MISCELLANEOUS.

Eastern Valley Sewerage Scheme.

In 1892 Mr. Mansergh advised the adoption of this scheme ; and at last, after much controversy, no delay (assuming the sanction of the Local Government Board) should occur in preventing the commencement of this the most important improvement in the town.

It is unnecessary for me to give the urgent reasons why no delay should be allowed, and I content myself with saying that the Marine Parade and Scott's Villas Sewers are in a condition most dangerous to the public health, being tidal, with open joints, almost level, and laid in running sand.

The following notice (together with plans prepared by the Borough Surveyor, Mr. Harlock) gives a brief summary of the proposed construction of the Sewage Works outside the Borough :—

BOROUGH OF SOUTHEND-ON-SEA.

PUBLIC HEALTH ACT, 1875.

Proposed construction of Sewage Works outside the Borough.

NOTICE IS HEREBY GIVEN, that, at the expiration of three months from the publication hereof, the Mayor, Aldermen, and Burgesses of the Borough of Southend-on-Sea, acting by the Council, being the Local Authority for the said Borough, intend to CONSTRUCT SEWERS and WORKS for Sewage purposes without their District (being the said Borough), which Works will consist of a Storage Tank, Low-level Pumping Station and Rising Main, Intercepting Sewers, Low-level Sewers, an Outfall Sewer, and an Overflow Sewer.

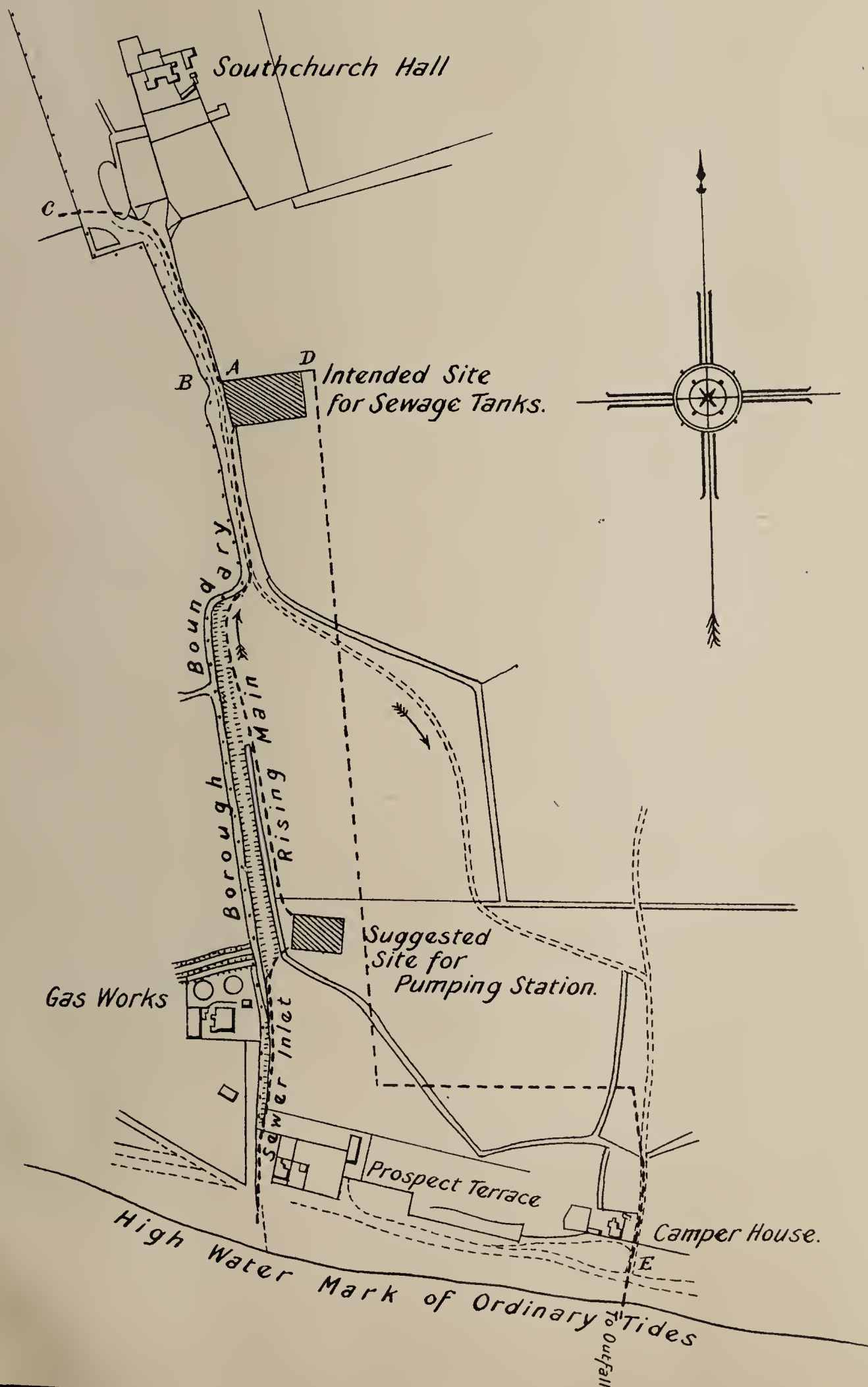
The Storage Tank will be for the purpose of storing sewage during tide-lock ; the Pumping Station will be for raising the low-level sewage into the storage tank ; the Intercepting Sewers are to convey the High-level sewage into the storage tank ; the Low-level Sewers are to convey the low-level sewage to the pumping station ; the Outfall Sewer is to convey the sewage from the storage tank into the River Thames ; and the Overflow Sewer is to convey storm waters into the River Thames.

The whole of the Works will commence and end on land forming part of or known as the Southchurch Hall Estate (also called the "Riviera Estate") and the foreshore belonging thereto.

SOUTHEND SEWAGE.

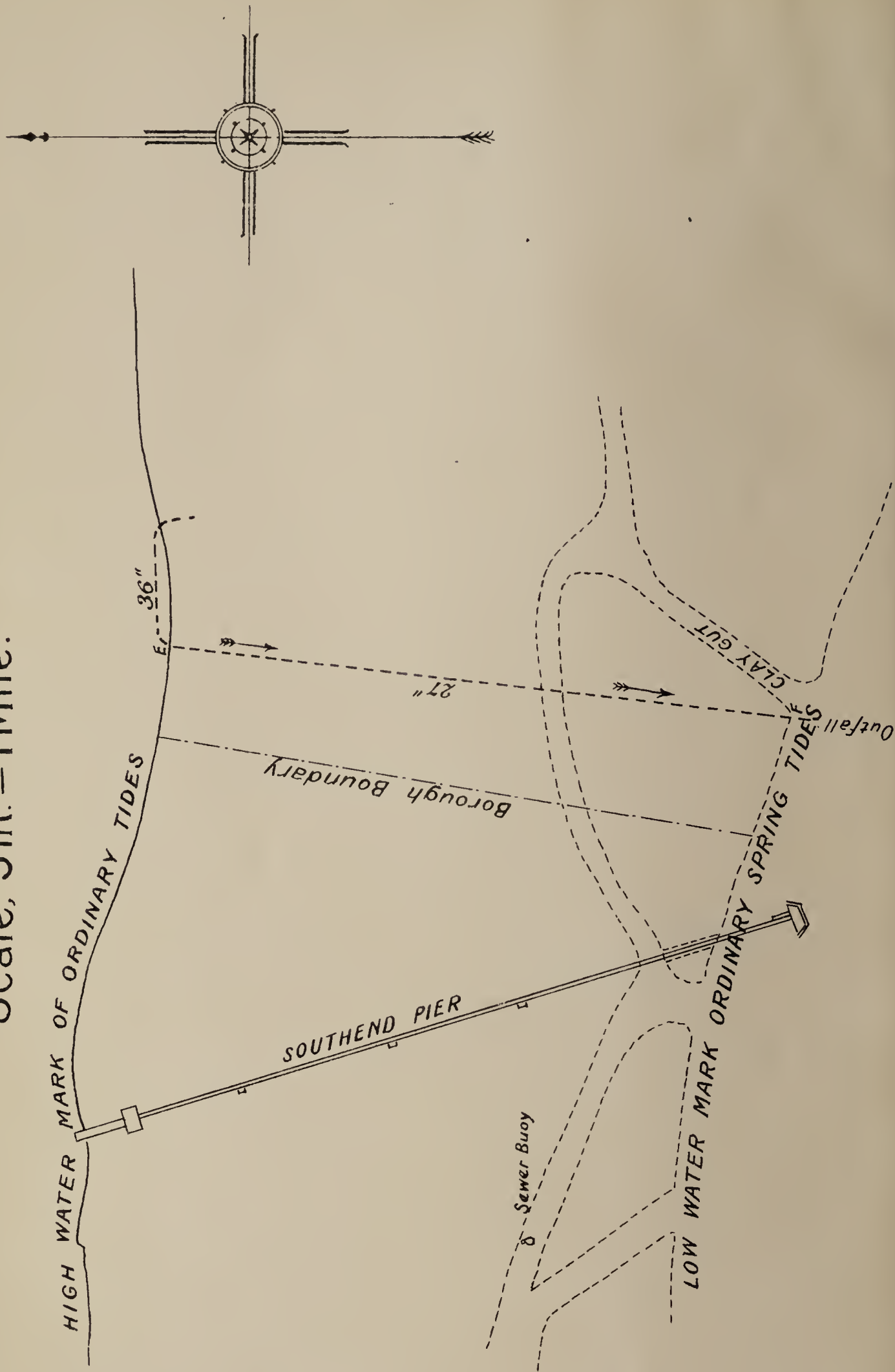
Plan of proposed Sites for Tanks & Pumping Station.

Scale 1/5000.



PLAN OF OUTFALL.

Scale, 3 in. = 1 Mile.



All the said proposed Works outside the said Borough will be in the parish of Southehureh. The roads and lands through, aeross, under, or on which the Works are to be made, are the road adjoining the Sea-shore, and the said Southehurch Hall (or Riviera) Estate, immediately to the east of the eastern boundary of the said Borough of Southend-on-Sea, and also land belonging to the Southend Gas Co., and land leased to Mrs. Constantine, which lands were formerly part of the said Southehurch Hall Estate.

A plan of the proposed Works may be seen at the Town Clerk's Office, in Alexandra Street, Southend, at all reasonable hours.

Dated this 13th day of January, 1896.

WILLIAM GREGSON,
Town Clerk.

In connection with this scheme it is proposed to incorporate part of Southehureh Parish, a most desirable proceeding considering that the sewage from the houses along the Southehurch front discharges on the beach, and the present road at times is almost impassable.

Western Valley Sewerage.

The Committee have a scheme for this part under consideration, and it is desirable that no outfall be allowed at the west end of the town.

Legislation for Local Sanitary Purposes.

By virtue of the Southend-on-Sea Corporation Act, which has become law during the past year 1895, enactments are now in force within the Borough relating to the following Sanitary matters :—

Section 18. Power to prohibit cellars in districts liable to floods.

20. Any cistern used for the supply of water for domestic purposes so placed or constructed as to render water liable to contamination to be deemed a nuisance within the meaning of the Public Health Act, 1875.

22. For prohibiting oecupation of new dwelling houses until drainage and water supply completed and certificate granted that the dwelling house is in every respect fit for human habitation.

25. Provision as to filling up of cesspools, etc.

26. Corporation may require offensive urinals to be removed.

27. Urinals to be attached to refreshment houses, etc.

28. Persons engaged in washing or mangling clothes to furnish list of owners of clothes.
29. Cow keepers and others to furnish list of customers in cases where outbreak or spread of infectious disease attributable to milk supply.
45. For prohibiting use of private slaughter houses after provision by Corporation of public slaughter houses.

Cemetery.

An inquiry was held by Dr. Hoffman, of the Home Office, in May, as to the necessity of closing St. John's Churchyard. The Inspector reported that burial space remained for three or four years subject to the Home Office regulations as to space and depth.

In October I made a special report to the Law and Parliamentary Committee as to the suitability of a site on Sutton Road, 15 acres in extent, and gave the following reasons for acquiring the ground which has since been effected, subject to the sanction of the Local Government Board :—

- (a) Loamy, sandy soil.
- (b) Allows of rapid decomposition.
- (c) Elevation but slight.
- (d) Absence of water, consequently no danger of polluting wells or watercourses.
- (e) Only one house within 300 yards (owner and occupier consenting.)

SUMMARY OF IMPROVEMENTS DURING THE YEAR 1895.

1. Additional Hospital Block for Infectious Disease, together with Administrative Block, etc.
2. Erection of Steam Disinfector.
3. Isolation Hospital for Smallpox.
4. Assistant Sanitary Inspector.
5. Land for a Borough Cemetery.
6. Increased Lavatory Accommodation.
7. Decrease in Zymotic Disease.
8. Increased Legislation for Local Sanitary Purposes.
9. A 2½-gallon flush for W.C. in lieu of 2 gallons.

IN PROGRESS—

1. Eastern Valley Sewerage Scheme.
2. Lavatory Accommodation for women and men.
3. Public Baths.

TO BE CONSIDERED—

1. Necessity for a Destructor.
2. Drainage for Prittlewell.
3. The Western Valley Sewerage.

Local Government

TABLE OF DEATHS during the year 1895, in

DISEASES, AGES,

<p>NAMES OF LOCALITIES adopted for the purpose of these statistics ; public institutions being shown as separate localities.</p> <p><i>(Columns for Population and Births are in Table B).</i></p> <p>(a)</p>	MORTALITY FROM ALL CAUSES, AT SUBJOINED AGES.						
	At all ages.	Under 1 year.	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 and upwards
	(b)	(c)	(d)	(e)	(f)	(g)	(h)
ST. JOHN'S	126	21	17	8	9	44	27
ALL SAINTS	51	15	7	2	3	15	9
ST. MARY'S	65	15	13	3	1	21	12
SANATORIUM	6	...	...	...	2	4	...
VICTORIA HOSPITAL	5	...	...	1	2	2	...
ST. MARY'S CONVENT	1	...	1	...	...	...	...
NAZARETH HOUSE	9	...	...	...	...	4	5
TOTALS ...	263	51	38	14	17	90	53

The subjoined numbers have also to be taken into

Deaths occurring outside the district among persons belonging thereto.	5	...	..	...	...	3	2
Deaths occurring within the district among persons not belonging thereto.	26	2	4	3	3	12	2

Board Table. (A)
the Borough of Southend-on-Sea, classified according to
and LOCALITIES.

MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.														
(1)	Smallpox.	Diphtheria.	Membranous Croup.	FEVER. Enteric or Typhoid.	Whooping Cough.	Diarrhœa and Dysentery.	Rheumatic Fever.	Phthisis.	Bronchitis, Pneumonia and Pleurisy.	Heart Disease.	Influenza.	Injuries.	All Other Diseases.	TOTAL.
Under 5		3				4				2		1	28	38
5 upwds.		3	1	3			1	10	8	11	5	8	38	88
Under 5		1	1		2	2			4				12	22
5 upwds								6	3	2	2	3	13	29
Under 5					1			1	8			1	17	28
5 upwds		1		1				5	10	4	1		15	37
Under 5														
5 upwds.	1			5										6
Under 5														
5 upwds.								1		1		1	2	5
Under 5								1						1
5 upwds.														
Under 5														
5 upwds.										1			8	9
Under 5		4	1		3	6		2	12	2		2	57	89
5 upwds.	1	4	1	9			1	22	21	19	8	12	76	174

account in judging of the above records of mortality.

Under 5														
5 upwds.								1					4	5
Under 5		1				1							4	6
5 upwds.		2		1				4	1	1		4	7	20

Local Government Board Table (B)

TABLE OF POPULATION, BIRTHS, AND OF NEW CASES OF INFECTIOUS SICKNESS, coming to the knowledge of the Medical Officer of Health, during the year 1895, in the Borough of Southend-on-Sea Urban District; classified according to DISEASES, AGES and LOCALITIES.

NAMES OF LOCALITIES adopted for the purpose of these Statistics ; Public Institutions being shown as separate localities.	Population at all Ages.		Registered Births.	Aged under 5 or over 5.	New Cases of Sickness in each Locality coming to the knowledge of the Medical Officer of Health.							Number of such Cases Removed from their Homes in the several Localities for Treatment in Isolation Hospital.							
	Census 1891	Estimated to middle of 1895			Smallpox.	Scarlatina.	Diphtheria	Membranous Croup.	FEBRILE.		Erysipelas.	Smallpox.	Scarlatina.	Diphtheria	Membranous Croup.	FEBRILE.			
									Enteric or Typhoid.	Continued						Enteric or Typhoid.	Continued		
(a)	(b)	(c)	(d)	(e)															
ST. JOHN'S ...	12333	16203	426	Under 5	.....	3	4	3	7	.....	.....	.....	.....	.....	.....	4	.....	.....
.....				5 upwds.	1	18	20	1	64	1	7	1	7	4	.....	31	.....	.....
ALL SAINTS ...				Under 5	1	1
.....				5 upwds.	1	3	2	2	2
ST. MARY'S (H)				Under 5	1	2
.....	12333	16203	426	5 upwds.	2	3	1	.....	20	.....	1	1	2	1	.....	8	.....	1
SANATORIUM ...				Under 5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....				5 upwds.	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
ST. MARY'S HOME ...				Under 5	1
.....				5 upwds.
TOTALS ...	12333	16203	426	Under 5	.....	5	6	3	7	.....	.....	.....	1	.....	4	.....	.....
.....	.....	.....	.....	5 upwds.	4	21	25	1	87	1	10	2	9	6	42	.....	1	

(H) District in which Sanitary Hospital is situated

